SEQUENCE LISTING

<110> Toni R. Prezant (Inventor)
Shlomo Melmed (Inventor)
Anthony P. Heaney (Inventor)

<120> METHOD OF REGULATING BIOLOGICAL ACTIVITY
OF PITUITARY TUMOR TRANSFORMING GENE (PTTG)1 USING PTTG2

<130> 18810-81401

<140> US UNASSIGNED
<141> 2001-05-11

<150> US 09/777,422
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<150> US 09/730,469
<151> 2000-12-04

<150> US 09/687,911
<151> 2000-10-13

<150> US 09/569,956
<151> 2000-05-12

<150> US 08/894,251
<151> 1999-07-23

<150> PCT/US86/21463
<151> 1997-11-21

<150> US 60/031,338
<151> 1996-11-21

<160> 68

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<213> Rattus rattus

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gcgtttatga ccctggcgtg aagatttaag gtctggatta agcctgttga cttctccagc 180
tacttctaaa tttttgtgca taggtgctct ggtctctgtt gctgcttagt tcttccagcc 240

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gactctgagt gtgaaaaaga tcaccgagaa gtctactaag acacaaggct ctgctcctgc 600
tcctgatgat gcctacccag aaatagaaaa gttcttcccc ttcgatcctc tagattttga 660
gagttttgac ctgcctgaag agcaccagat ctcacttctc cccttgaatg gagtgcctct 720
catgatcctg aatgaagaga gggggcttga gaagctgctg cacctggacc ccccttcccc 780
tctgcagaag cccttcctac cgtgggaatc tgatccgttg ccgtctcctc ccagcgccct 840
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ctcctttata gtttatgtaa gttgtattaa taaagcattt gtgtgtaaaa aaaaaaaaaa 960
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<210> 2
<211> 199
<212> PRT
<213> Rattus rattus

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Arg Leu Ala Ser Lys Asp Gly Leu Lys Leu Gly Ser Gly Val Lys Ala
20 25 30
Leu Asp Gly Lys Leu Gln Val Ser Thr Pro Arg Val Gly Lys Val Phe
35 40 45
Gly Ala Pro Gly Leu Pro Lys Ala Ser Arg Lys Ala Leu Gly Thr Val
50 55 60
Asn Arg Val Thr Glu Lys Pro Val Lys Ser Ser Lys Pro Leu Gln Ser
65 70 75 80
Lys Gln Pro Thr Leu Ser Val Lys Lys Ile Thr Glu Lys Ser Thr Lys
85 90 95
Thr Gln Gly Ser Ala Pro Ala Pro Asp Asp Ala Tyr Pro Glu Ile Glu
100 105 110
Lys Phe Phe Pro Phe Asp Pro Leu Asp Phe Glu Ser Phe Asp Leu Pro
115 120 125
Glu Glu His Gln Ile Ser Leu Leu Pro Leu Asn Gly Val Pro Leu Met
130 135 140
Ile Leu Asn Glu Glu Arg Gly Leu Glu Lys Leu Leu His Leu Asp Pro
145 150 155 160
Pro Ser Pro Leu Gln Lys Pro Phe Leu Pro Trp Glu Ser Asp Pro Leu
165 170 175
Pro Ser Pro Pro Ser Ala Leu Ser Ala Leu Asp Val Glu Leu Pro Pro
180 185 190
Val Cys Tyr Asp Ala Asp Ile
195

<210> 3
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<212> DNA
<213> Homo sapiens

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tgcctatcca gaaatagaaa aattctttcc cttcaatcct ctagactttg agagttttga 480
cctgcctgaa gagcaccaga ttgcgcacct ccccttgagt ggagtgcctc tcatgatcct 540
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<211> 202
<212> PRT
<213> Homo sapiens

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20 25 30
Lys Ala Leu Asp Gly Arg Ser Gln Val Ser Thr Pro Arg Phe Gly Lys
35 40 45
Thr Phe Asp Ala Pro Pro Ala Leu Pro Lys Ala Thr Arg Lys Ala Leu
50 55 60
Gly Thr Val Asn Arg Ala Thr Glu Lys Ser Val Lys Thr Lys Gly Pro
65 70 75 80
Leu Lys Gln Lys Gln Pro Ser Phe Ser Ala Lys Lys Met Thr Glu Lys
85 90 95
Thr Val Lys Ala Lys Ser Ser Val Pro Ala Ser Asp Asp Ala Tyr Pro
100 105 110
Glu Ile Glu Lys Phe Phe Pro Phe Asn Pro Leu Asp Phe Glu Ser Phe
115 120 125
Asp Leu Pro Glu Glu His Gln Ile Ala His Leu Pro Leu Ser Gly Val
130 135 140
Pro Leu Met Ile Leu Asp Glu Glu Arg Glu Leu Glu Lys Leu Phe Gln
145 150 155 160
Leu Gly Pro Pro Ser Pro Val Lys Met Pro Ser Pro Pro Trp Glu Ser
165 170 175
Asn Leu Leu Gln Ser Pro Ser Ser Ile Leu Ser Thr Leu Asp Val Glu
180 185 190
Leu Pro Pro Val Cys Cys Asp Ile Asp Ile
195 200

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<211> 31
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<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide.

<400> 5
gatgctctcc gcactctggg aatccaatct g 31

<210> 6
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide.

<400> 6
ttcacaagtt gaggggcgcc cagctgaaac ag 32

<210> 7
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide specific to pCI-neo
plasmid. vector.

<400> 7
ggctagagta cttaatacga ctcactatag gc 32

<210> 8
<211> 31
<212> DNA
<213> Homo sapiens

<400> 8
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<210> 9
<211> 56
<212> PRT
<213> Homo sapiens

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Pro Pro Ser Pro Val Lys Met Pro Ser Pro Pro Trp Glu Ser Asn Leu
20 25 30
Leu Gln Ser Pro Ser Ser Ile Leu Ser Thr Leu Asp Val Glu Leu Pro
35 40 45
Pro Val Cys Cys Asp Ile Asp Ile
50 55

<210> 10
<211> 168
<212> DNA
<213> Homo sapiens

<400> 10
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gtgaagatgc cctctccacc atgggaatcc aatctgttgc agtctccttc aagcattctg 120
tcgaccctgg atgttgaatt gccacctgtt tgctgtgaca tagatatt 168

<210> 11
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> Anchored primer sequence.

<400> 11
aagctttttt tttttg 16

<210> 12
<211> 13
<212> DNA
<213> Artificial Sequence

<220>
<223> Arbitrary primer sequence.

<400> 12
aagcttgctg ctc 13

<210> 13
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> n = a, g, or c; Anchored primer sequence.

<400> 13
aagctttttt tttttn 16

<210> 14
<211> 194
<212> PRT
<213> Mus musculus

<400> 14
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20 25 30
Leu Asp Gly Lys Leu Gln Val Ser Thr Pro Arg Val Gly Lys Val Phe
35 40 45
Asn Ala Pro Ala Val Pro Lys Ala Ser Arg Lys Ala Leu Gly Thr Val
50 55 60
Asn Arg Val Ala Glu Lys Pro Met Lys Thr Gly Lys Pro Leu Gln Pro
65 70 75 80
Lys Gln Pro Thr Leu Thr Gly Lys Lys Ile Thr Glu Lys Ser Thr Lys

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                85                  90                  95
Thr Gln Ser Ser Val Pro Ala Pro Asp Asp Ala Tyr Pro Glu Ile Glu
            100                 105                 110
Lys Phe Phe Pro Phe Asn Pro Leu Asp Phe Asp Leu Pro Glu Glu His
        115                 120                 125
Gln Ile Ser Leu Leu Pro Leu Asn Gly Val Pro Leu Ile Thr Leu Asn
    130                 135                 140
Glu Glu Arg Gly Leu Glu Lys Leu Leu His Leu Gly Pro Pro Ser Pro
145                 150                 155                 160
Leu Lys Thr Pro Phe Leu Ser Trp Glu Ser Asp Pro Lys Pro Pro Ser
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Ala Leu Ser Thr Leu Asp Val Glu Leu Pro Pro Val Cys Tyr Asp Ala
            180                 185                 190
Asp Ile
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<210> 15
<211> 945
<212> DNA
<213> Mus musculus

<400> 15
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tctgttcctg ctcctgatga tgcctaccca gaaatagaaa agttcttccc tttcaatcct 660
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cctctgaaga cacccttttct atcatgggaa tctgatccgc tgtactctcc tcccagtgcc 840
ctctccactc tggatgttga attgccgcct gtttgttacg atgcagatat ttaaacttct 900
tacttctttg tagtttctgt atgtatgttg tattaataaa gcatt                 945
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<210> 16
<211> 56
<212> PRT
<213> Rattus rattus

<400> 16
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Pro Pro Ser Pro Leu Gln Lys Pro Phe Leu Pro Trp Glu Ser Asp Pro
            20                  25                  30
Leu Pro Ser Pro Pro Ser Ala Leu Ser Ala Leu Asp Val Glu Leu Pro
        35                  40                  45
Pro Val Cys Tyr Asp Ala Asp Ile
    50                  55
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<210> 17
<211> 56
<212> PRT
<213> Mus musculus

<400> 17
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 1   5   10   15
Pro Pro Ser Pro Leu Lys Thr Pro Phe Leu Ser Trp Glu Ser Asp Pro
            20   25   30
Leu Tyr Ser Pro Pro Ser Ala Leu Ser Thr Leu Asp Val Glu Leu Pro
        35   40   45
Pro Val Cys Tyr Asp Ala Asp Ile
    50   55

<210> 18
<211> 168
<212> DNA
<213> Rattus rattus

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ctgcagaagc ccttcctacc gtgggaatct gatccgttgc cgtctcctcc cagcgccctc 120
tccgctctgg atgttgaatt gccgcctgtt tgttacgatg cagatatt 168

<210> 19
<211> 168
<212> DNA
<213> Mus musculus

<400> 19
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tccactctgg atgttgaatt gccgcctgtt tgttacgatg cagatatt 168

<210> 20
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Forward primer 34a

<400> 20
ggagaaccag gcacccgtgt g 21

<210> 21
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Forward primer C106F

<400> 21
aaggatgggc tgaagctgg 19

<210> 22
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Forward primer C124F

<400> 22
gggtctggac cttcaatcaa agc 23

<210> 23
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Forward primer 2-14F

<400> 23
aatgtggctg ttgagagcg 19

<210> 24
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Forward primer 3-88F

<400> 24
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<210> 25
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<220>
<223> Forward primer 4-7F

<400> 25
agagagaggc atggatcag 19

<210> 26
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Forward primer -5F

<400> 26
ccagaatggc tactctgatc 20

<210> 27
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Forward primer 462F

<400> 27
ccccttgagt ggagtgcctc 20

<210> 28
<211> 18
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<220>
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<400> 28
atgccctctc caccatgg 18

<210> 29
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<213> Artificial Sequence

<220>
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<400> 29
tttaatatta cacgatccta g 21

<210> 30
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<210> 32
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<220>
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<400> 33
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<220>
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<400> 34
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<210> 35
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<212> DNA
<213> Artificial Sequence

<220>
<223> Forward primer G2-62F

<400> 35
aaatataaag tgggaccac 19

<210> 36
<211> 18
<212> DNA
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<220>
<223> Forward primer G2-53F

<400> 36
gtgggaccac ggtcttag 18

<210> 37
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<220>
<223> Forward primer G2-49F

<400> 37
gaccacggtc ttagatgaat 20

<210> 38
<211> 20
<212> DNA
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<220>
<223> Forward primer G3-33F

<400> 38
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<210> 39
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Forward primer PTTG1S

<400> 39
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<210> 40
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<220>
<223> Forward primer PTTG2S

<400> 40
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<210> 41
<211> 27
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<400> 41
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<210> 42
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<400> 42
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<210> 43
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<212> DNA
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<220>
<223> Forward primer pBIND-3'F

<400> 43
tgaggtacct gaagatctaa ggcc 24

<210> 44
<211> 21
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<400> 44
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<210> 45
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<220>
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<400> 45
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<210> 46
<211> 23
<212> DNA
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<220>
<223> Reverse primer 601b

<400> 46
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<210> 47
<211> 23
<212> DNA
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<220>
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<400> 47
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<210> 48
<211> 20
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<220>
<223> Reverse primer C481R

<400> 48
gaggcactcc actcaagggg 20

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<220>
<223> Reverse primer C525R

<400> 49
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<210> 50
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<220>
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<400> 50
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<210> 51
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse primer 3-434R

<400> 51
aggtcaaaac tctcgaagc 19

<210> 52
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse primer 4-282R

<400> 52
tccgttgatc tttactcacg 20

<210> 53
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse primer 653R

<400> 53
taaatatcta tgtcacagca aacagg 26

<210> 54
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<220>
<223> Reverse primer G3-679R

<400> 54
cacaaactct aaagcactaa g 21

<210> 55
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse primer PTTG1AS

<400> 55
ggtaccttaa atatctatgt cacagc 26

<210> 56
<211> 27
<212> DNA
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<220>
<223> Reverse primer PTTG2AS

<400> 56
ggtaccacat ccagggtcga cagaatg 27

<210> 57
<211> 27
<212> DNA
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<220>
<223> Reverse primer PTTG3AS

<400> 57
ggtaccaata tctatgtcac agcaaac 27

<210> 58
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse primer pBIND-5'R

<400> 58
cacggatccc cgggaattc 19

<210> 59
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse primer G2-Ctail.R

<400> 59
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<210> 60
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse primer PTTG2-R

<400> 60
tcaggtacct caacatccag ggtc 24

<210> 61
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse primer PTTG3-R

<400> 61
tcaggtacct caaatatcta tgtc 24

<210> 62
<211> 1231
<212> DNA
<213> Homo sapiens

<400> 62
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ggtactcccg agattcctac ccaggtttgt ctgacctcag gcctgtgctc tttatatgag 240
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tgccagctgt ttgctatgac atagatattt aaatttctta gtgctttgga gtttgtgtgt 1020
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actacagccc gtactctttg gggatatgtc aacatgattt acttctgtag agaaacagga 1200
gacaggaaat agcaaaggat aaaggagaaa a 1231

<210> 63
<211> 576
<212> DNA
<213> Homo sapiens

<400> 63
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gttttaacac cacgttttgg caaaacatac gatgctccat cagccttacc taaagctacc 180
agaaaggctt tgggcactgt caacagagct acagaaaagt cagtaaagac caatggaccc 240
agaaaacaaa aacagccaag cttttctgcc aaaaagatga ccgagaagac tgttaaaaca 300
aaaagttctg ttcctgcctc agatgacgcc tatccagaaa tagaaaaatt ctttcccttc 360
aatcttctag actttgagag ttttgacctg cctgaagagc gccagattgc acacctcccc 420
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<210> 64
<211> 191
<212> PRT
<213> Homo sapiens

<400> 64
Met Ala Thr Leu Ile Tyr Val Asp Lys Glu Ile Gly Glu Pro Gly Thr

1   5   10   15
Arg Val Ala Ala Lys Asp Val Leu Lys Leu Glu Ser Arg Pro Ser Ile
            20   25   30
Lys Ala Leu Asp Gly Ile Ser Gln Val Leu Thr Pro Arg Phe Gly Lys
        35   40   45
Thr Tyr Asp Ala Pro Ser Ala Leu Pro Lys Ala Thr Arg Lys Ala Leu
    50   55   60
Gly Thr Val Asn Arg Ala Thr Glu Lys Ser Val Lys Thr Asn Gly Pro
65   70   75   80
Arg Lys Gln Lys Gln Pro Ser Phe Ser Ala Lys Lys Met Thr Glu Lys
                85   90   95
Thr Val Lys Thr Lys Ser Ser Val Pro Ala Ser Asp Asp Ala Tyr Pro
            100   105   110
Glu Ile Glu Lys Phe Phe Pro Phe Asn Leu Leu Asp Phe Glu Ser Phe
        115   120   125
Asp Leu Pro Glu Glu Arg Gln Ile Ala His Leu Pro Leu Ser Gly Val
    130   135   140
Pro Leu Met Ile Leu Asp Glu Glu Gly Glu Leu Glu Lys Leu Phe Gln
145   150   155   160
Leu Gly Pro Pro Ser Pro Val Lys Met Pro Ser Pro Pro Trp Glu Cys
                165   170   175
Asn Leu Phe Ala Val Ser Phe Lys His Ser Val Asp Pro Gly Cys
            180   185   190

<210> 65
<211> 1305
<212> DNA
<213> Homo sapiens

<400> 65
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agtaataact tatggtgggt ttatatctaa tgtatcagta aaatatatga caacagtatt 180
ataaaagcta gcattagaga catggaagta taccattgta agacatatcc tataagtgta 240
agtattctat aagtgatgtg gtataattca aatgaagata gactgtaata aattaaagat 300
atatacttaa atctggtcga gagcggcaat aatccagaat ggctactctg atctatgttg 360
ataaggaaaa cgaagaacca ggcatccttg tggctacaaa ggatgggctg aagctggggt 420
ctggaccttc aatcaaagcc ttagatggga gatctcaagt ttcaatatca tgttttggca 480
aaacattcga tgctcccaca tccttaccta aagctaccag aaaggctttg ggaactgtca 540
acagagctac agaaaagtca gtaaagacca atggacccct caaacaaaaa cagccaagct 600
tttctgccaa aaagatgact gagaagactg ttaaagcaaa aaactctgtt cctgcctcag 660
atgatggcta tccagaaata gaaaaattat ttcccttcaa tcctctaggc ttcgagagtt 720
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ccctggatgt tgaattgcca cctgtttgct ctgacataga tatttaaatt tcttagtgct 960
ttagagtttg tgtatatttc tattaataaa gcattatttg tttaacagaa aaaaagatat 1020
atacttaaat cctaaaataa aataaccatt aaaaggaaaa acaggagtta taactaataa 1080
gggaacaaag gacataaaat gggataataa tgcttaatcc aaaataaagc agaaaatgaa 1140
gaaaaatgaa atgaagaaca gataaataga aaacaaatag caatatgaaa gacaaacttg 1200
accgggtgtg gtggctgatg cctgtaatcc cagcactgtg ggaggctgag gcaggcggat 1260
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<210> 66

<211> 609
<212> DNA
<213> Homo sapiens

<400> 66
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gtttcaatat catgttttgg caaaacattc gatgctccca catccttacc taaagctacc 180
agaaaggctt tgggaactgt caacagagct acagaaaagt cagtaaagac caatggaccc 240
ctcaaacaaa aacagccaag cttttctgcc aaaaagatga ctgagaagac tgttaaagca 300
aaaaactctg ttcctgcctc agatgatggc tatccagaaa tagaaaaatt atttcccttc 360
aatcctctag gcttcgagag ttttgacctg cctgaagagc accagattgc acatctcccc 420
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ctgggccccc cttcaccttt gaagatgccc tctccaccat ggaaatccaa tctgttgcag 540
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<210> 67
<211> 202
<212> PRT
<213> Homo sapiens

<400> 67
Met Ala Thr Leu Ile Tyr Val Asp Lys Glu Asn Glu Glu Pro Gly Ile
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Leu Val Ala Thr Lys Asp Gly Leu Lys Leu Gly Ser Gly Pro Ser Ile
            20   25   30
Lys Ala Leu Asp Gly Arg Ser Gln Val Ser Ile Ser Cys Phe Gly Lys
        35   40   45
Thr Phe Asp Ala Pro Thr Ser Leu Pro Lys Ala Thr Arg Lys Ala Leu
    50   55   60
Gly Thr Val Asn Arg Ala Thr Glu Lys Ser Val Lys Thr Asn Gly Pro
65   70   75   80
Leu Lys Gln Lys Gln Pro Ser Phe Ser Ala Lys Lys Met Thr Glu Lys
                85   90   95
Thr Val Lys Ala Lys Asn Ser Val Pro Ala Ser Asp Asp Gly Tyr Pro
            100   105   110
Glu Ile Glu Lys Leu Phe Pro Phe Asn Pro Leu Gly Phe Glu Ser Phe
        115   120   125
Asp Leu Pro Glu Glu His Gln Ile Ala His Leu Pro Leu Ser Glu Val
    130   135   140
Pro Leu Met Ile Leu Asp Glu Glu Arg Glu Leu Glu Lys Leu Phe Gln
145   150   155   160
Leu Gly Pro Pro Ser Pro Leu Lys Met Pro Ser Pro Pro Trp Lys Ser
                165   170   175
Asn Leu Leu Gln Ser Pro Leu Ser Ile Leu Leu Thr Leu Asp Val Glu
            180   185   190
Leu Pro Pro Val Cys Ser Asp Ile Asp Ile
        195   200

<210> 68
<211> 1142
<212> DNA
<213> Homo sapiens

<400> 68
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gtatgtcatg ggttgaattg tggccccaaa aaagatatag tgaagtcctc agaatgtgac 180
catgtttgga aataggcttg ttagagatgt gattagtcag gataaggtcc tactggagca 240
gagtgggccc ctaacccaat atgactggtg tccatacaag aagacacaga cacacaggaa 300
gaacaccata tggagatgga acactgcaga gacgcatcca caagccaagg aatgcctggg 360
gctactagaa gcaaagagag aggcatggat cagattctcc cccagaagga acccaccctg 420
ctctgatcta tgttgataag gagaatggag aaccaggtat ccatgcagct cctaaagata 480
ggctgaagct gggatctgga ccttcaatca aagccttaga ggggagatct caagtttcag 540
caccacgtgt tggcaaaatg tccaatgctt taccagcctt acctaaagct accagaaagt 600
cttttggaac tgtcaacagg gctacagaaa cgtgagtaaa gatcaacgga ctcctcaaac 660
taaaacaccc aaatttctct gccgaaaaga tgaccaggaa gactgttaaa gcaaaaagct 720
ctgttccttc ctcagataat gcctacccag aaatagaaaa attatttcac ttcaatcttc 780
tagattttga gagttttaac caacctgaag tgcaccagat tgcaggcctc cccttgagtg 840
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cgccttcgcc tgtgaagatg ccctctccgc catgggaacc caatctgttg cagtgtcctt 960
caacccttct gttgaccctg gatgttgaat tgccacctgt ttactatgac ataaatattt 1020
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aaaaaaaaaa ctcaccctgc taacacctta atttggaact tccacctcca gactgtgaga 1140
ca 1142